

Serial No.: 10/603,497

125163-1

Amdt. Dated: November 29, 2004

Reply to Office action of August 31, 2004

### Amendments to the claims

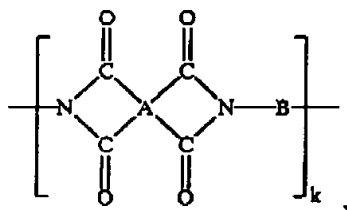
This listing of claims will replace all prior versions and listings of claims in the application.

### Listing of Claims

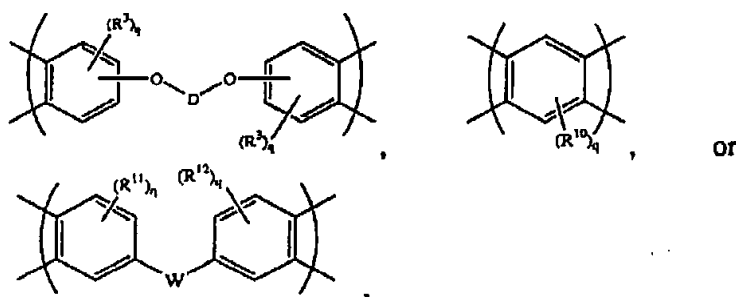
1. (currently amended) A storage medium for data, the storage medium comprising:

- a) a substrate, a physical portion of which comprises at least one polyimide, and
- b) at least one data layer on the substrate;

wherein said polyimide has a mechanical damping coefficient of at least about 0.028 at a temperature of about 50°C at a frequency of about 1.6 hertz; and wherein the at least one polyimide comprising structural units of the formula:



wherein "A" comprises structural units of the formulae:



or mixtures of the foregoing structural units;

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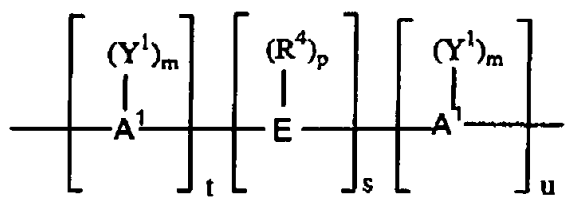
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wherein "D" is a divalent aromatic group, R<sub>3</sub> and R<sub>10</sub>–R<sub>12</sub> are independently selected from hydrogen, halogen, and C<sub>1</sub>–C<sub>6</sub> alkyl groups; "q" is an integer having a value of 1 up to the number of positions available on the aromatic ring for substitution; "W" is a linking group; and

wherein B comprises a divalent organic radical selected from aromatic hydrocarbon radicals having 6 to about 30 carbon atoms and substituted derivatives thereof.

2. (original) The data storage medium of claim 1, wherein "D" has the formula:



wherein A<sup>1</sup> is an aromatic group, E is an alkylene, an alkyldiene, a cycloaliphatic group; a sulfur-containing linkage, a phosphorus-containing linkage; an ether linkage, a carbonyl group, a tertiary nitrogen group, or a silicon-containing linkage; Y<sup>1</sup> is selected from the group consisting of a hydrogen, a monovalent hydrocarbon group, alkenyl, allyl, halogen, bromine, chlorine; and nitro; wherein "m" represents any integer from and including zero through the number of positions on A<sup>1</sup> available for substitution; R<sup>4</sup> is a hydrogen or a monovalent hydrocarbon group, wherein "p" represents an integer from and including zero through the number of positions on E available for substitution; "t" represents an integer equal to at least one; "s" represents an integer equal to either zero or one; and "u" represents any integer including zero.

3. (original) The polyimide composition of claim 2, wherein "E" is a moiety selected from the group consisting of cyclopentylidene, cyclohexylidene, 3,3,5-trimethylcyclohexylidene, methylcyclohexylidene, neopentylidene, cyclododecylidene, adamantylidene, isopropylidene, bicyclo[2.2.1]hept-2-ylidene, 1,7,7-trimethylbicyclo[2.2.1]hept-2-ylidene, and C=Z<sub>2</sub>, wherein each Z is hydrogen, chlorine, or bromine, subject to the provision that at least one Z is chlorine or bromine; and mixtures of the foregoing moieties.

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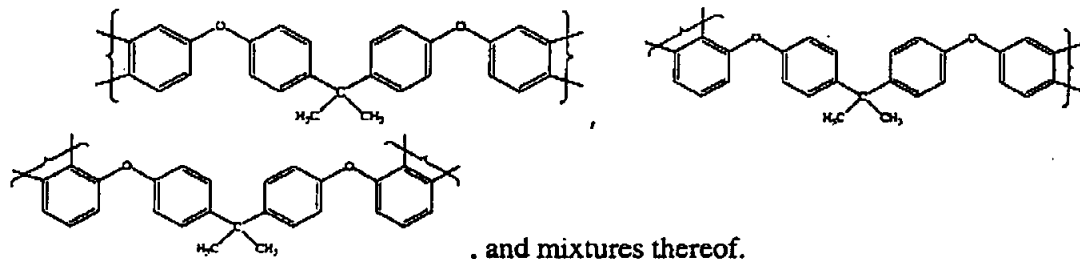
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4. (original) The polyimide composition of claim 1, wherein "W" is selected from the group consisting of a covalent bond, oxygen, sulfur, sulfoxide, sulfone, silicon, carbonyl, or hexafluoro isopropylidene.

5. (original) The data storage medium of claim 1, wherein "A" comprises structural units derived from 2,2-bis[4-(3,4-dicarboxyphenoxy)phenyl]propane dianhydride; 2,2-bis[4-(2,3-dicarboxyphenoxy)phenyl]propane dianhydride; the mixed dianhydride 2-[4-(3,4-dicarboxyphenoxy)phenyl]-2-[4-(2,3-dicarboxyphenoxy)phenyl]propane dianhydride, 3,4,3',4'-benzophenonetetracarboxylic acid dianhydride, 3,3',4,4'-oxydiphthalic anhydride, 2,3,2',3'-biphenyltetracarboxylic acid dianhydride, pyromellitic dianhydride, 3,4,3',4'-diphenylsulfonetetracarboxylic acid dianhydride, 4,4'-bis(3,4-dicarboxyphenoxy)diphenyl sulfide dianhydride, 1,4-bis(3,4-dicarboxyphenoxy)benzene dianhydride, 4,4'-bis(3,4-dicarboxyphenoxy)diphenyl ether dianhydride, 2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride or mixtures of the foregoing dianhydrides.

6. (original) The data storage medium of claim 1, wherein "A" is selected from the group consisting of:



7. (original) The data storage medium of claim 1, wherein "B" is selected from the group consisting of substituted and unsubstituted phenylene groups.

8. (original) The data storage medium of claim 1, wherein "B" comprises structural units derived from at least one diamine selected from the group consisting of 1,3-phenylenediamine, 1,4-phenylenediamine, 2-methyl-1,3-phenylenediamine, 4-methyl-1,3-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, 2,6-diethyl-4-methyl-1,3-phenylenediamine, 3,6-diethyl-2-methyl-1,3-phenylenediamine, 2,5-dimethyl-1,4-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, 3,5'-dimethylbenzidine,

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2,2',6,6'-tetramethylbenzidine, 3,5'-dimethoxybenzidine, 4,4'-diaminodiphenyl ether, 4,4'-diaminodiphenyl methane, fluorinated alkyl analogs of said diamines, 2-trifluoromethyl-1,4-phenylenediamine and mixtures thereof.

9. (original) The data storage medium of claim 1, wherein "B" comprises structural units derived from at least two diamines wherein at least about 45% of at least one diamine is selected from the group consisting of 1,3-phenylenediamine, 1,4-phenylenediamine, 2-methyl-1,3-phenylenediamine, 4-methyl-1,3-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, 2,6-diethyl-4-methyl-1,3-phenylenediamine, 3,6-diethyl-2-methyl-1,3-phenylenediamine, 2,5-dimethyl-1,4-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, 3,5'-dimethylbenzidine, 2,2',6,6'-tetramethylbenzidine, 3,5'-dimethoxybenzidine, 4,4'-diaminodiphenyl ether, 4,4'-diaminodiphenyl methane and combinations thereof, based on the total weight of structural units derived from diamine.

10. (original) The data storage medium of claim 1, wherein "k" is an integer having a value from 1 to about 50.

11. (original) The data storage medium of claim 1, wherein said polyimide composition is a blend comprising a second polyimide wherein the said blend is a miscible blend.  
Claims 12 – 14 (cancelled)

15. (original) The data storage medium of claim 1, wherein said polyetherimide composition has a mechanical damping coefficient of at least about 0.05 at a temperature of above about 130 °C at a frequency of about 1.6 hertz.

Claim 16. (cancelled)

17. (original) The data storage medium of claim 1, wherein said polyimide composition has a glass transition temperature in a range of about 150 °C to about 350 °C.

18. (original) The data storage medium of claim 1, wherein said polyimide composition has a glass transition temperature in a range of about 170 °C to about 300 °C.

19. (original) The data storage medium of claim 1, wherein said polyimide composition has a glass transition temperature in a range of about 180 °C to about 280 °C.

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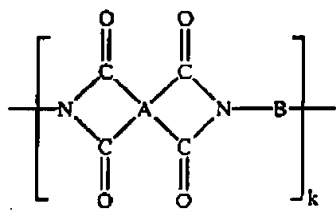
20. (currently amended) A storage medium for data, the storage medium comprising:

a) a substrate, a physical portion of which comprises at least one polyimide;

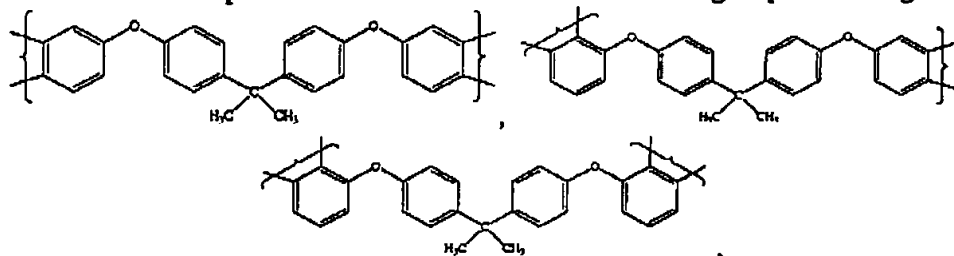
and

b) at least one data layer on the substrate;

wherein said polyimide has a mechanical damping coefficient of at least about 0.028 at a temperature of about 50 C at a frequency of about 1.6 hertz; the at least one polyimide comprising structural units of the formula:



wherein "A" comprises structural units selected from the group consisting of:



and mixtures thereof; and

B comprises a divalent organic radical selected from aromatic hydrocarbon radicals having 6 to about 30 carbon atoms and substituted derivatives thereof.

21. (original) The data storage medium of claim 20, wherein "B" comprises structural units derived from at least one diamine selected from the group consisting of 1,3-phenylenediamine, 1,4-phenylenediamine, 2-methyl-1,3-phenylenediamine, 4-methyl-1,3-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, 2,6-diethyl-4-methyl-1,3-phenylenediamine, 3,6-diethyl-2-methyl-1,3-phenylenediamine, 2,5-dimethyl-1,4-

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phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, 3,5'-dimethylbenzidine, 2,2',6,6'-tetramethylbenzidine, 3,5'-dimethoxybenzidine, 4,4'-diaminodiphenyl ether, 4,4'-diaminodiphenyl methane, fluorinated alkyl analogs of said diamines, 2-trifluoromethyl-1,4-phenylenediamine and mixtures thereof.

Claims 22-26 (cancelled)

27. (original) The data storage medium of claim 20, wherein "B" comprises structural units derived from at least two diamines wherein at least about 45% of at least one diamine is selected from the group consisting of 1,3-phenylenediamine, 1,4-phenylenediamine, 2-methyl-1,3-phenylenediamine, 4-methyl-1,3-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, 2,6-diethyl-4-methyl-1,3-phenylenediamine, 3,6-diethyl-2-methyl-1,3-phenylenediamine, 2,5-dimethyl-1,4-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, 3,5'-dimethylbenzidine, 2,2',6,6'-tetramethylbenzidine, 3,5'-dimethoxybenzidine, 4,4'-diaminodiphenyl ether, 4,4'-diaminodiphenyl methane and combinations thereof, based on the total weight of structural units derived from diamine.
28. (original) The data storage medium of claim 20, wherein said polyimide composition is a blend comprising a second polyimide wherein the said blend is a miscible blend.
29. (original) The data storage medium of claim 20, wherein said polyimide composition has a glass transition temperature in a range of about 150 °C to about 350 °C.
30. (original) The data storage medium of claim 20, wherein said polyimide composition has a glass transition temperature in a range of about 170 °C to about 300 °C.
31. (original) The data storage medium of claim 20, wherein said polyimide composition has a glass transition temperature in a range of about 180 °C to about 280 °C.